

Epitomes

Important Advances in Clinical Medicine

Physical Medicine and Rehabilitation

The Scientific Board of the California Medical Association presents the following inventory of items of progress in physical medicine and rehabilitation. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist busy practitioners, students, research workers or scholars to stay abreast of these items of progress in physical medicine and rehabilitation that have recently achieved a substantial degree of authoritative acceptance, whether in their own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Physical Medicine and Rehabilitation of the California Medical Association and the summaries were prepared under its direction.

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Powered Mobility for Very Young Disabled Children

GROSS MOTOR DEVELOPMENT is severely inhibited in infants and children with thoracic-level myelodysplasia, spinal muscular atrophy, spastic quadriplegic cerebral palsy, arthrogryposis multiplex congenita, four-extremity limb reduction and other profound impairments of the neurologic, skeletal or muscular system.

Until recently, the goal of independent mobility for these disabled children was considered highly desirable but unattainable or possible only in late childhood. Conventional wisdom had dictated that children younger than 5 years were incapable of safely and competently controlling a powered wheelchair and were physically undersized for wheelchairs designed for older children or adolescents.

In a study of 13 severely disabled children with a mean age of 31 months (range 20 to 37 months), Butler and co-workers showed that parents can teach their non-mentally retarded children to drive child-sized powered wheelchairs skillfully. Parental fears that the powered wheelchair would lead to purposeful or accidental bodily injury or property damage were unsubstantiated. Except for one subject, the children used their newly learned skill to explore their homes and, in doing so, accumulated long distances. An important new observation was the development of more spontaneous, self-initiated behavior in speech, play and maternal interaction, whereas movement previously was passive and dependent entirely on parents or older siblings.

Prescribing a powered mobility device for a very young disabled child should be carefully planned. First, the primary care physician or pediatric consultant, such as a physiatrist, should initiate an evaluation by a pediatric occupational or physical therapist. Assessment of the child's behavior, cognition, sitting posture and manual dexterity may lead to specific modifications in seating and control.

Second, the relationship between family and child should be understood before a final decision is made. Supportive parents should have reasonable expectations of their child's present and future development. Comments about motorized wheelchairs should reflect a positive, open attitude and appreciation for normal child development. Smaller sizes, tighter turning radii and greater portability of modern child-sized wheelchairs should allay parental anxieties related to building ramps, buying a van and remodeling the home. Any concern over the family's attention to basic safety, however, should prompt a home visit.

Third, the child should be relatively healthy. The resolution of recurrent skin breakdown, uncontrolled seizures, chronic urinary tract infections and anticipated operations momentarily takes priority over other habilitative endeavors.

Private insurance, charitable foundations, government programs or service organizations often fund generous portions of these specialized mobility devices. Bids from two or more reputable, experienced vendors should be encouraged. Where possible, the family and child should be offered choices in detailing the final prescription.

Powered-wheelchair mobility offers very young, physically disabled children an alternative to a restricted, deprived existence at an age when locomotion is critical to normal learning and socialization. Primary care physicians should consider motorized wheelchairs as a safe, affordable and efficient method of habilitating these patients to achieve independent movement.

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REFERENCES

- Breed AL, Ibler I: The motorized wheelchair: New freedom, new responsibility and new problems. *Dev Med Child Neurol* 1982 Jun; 24:366-371
- Butler C, Okamoto GA, McKay TM: Motorized wheelchair driving by disabled children. *Arch Phys Med Rehabil* 1984 Feb; 65:95-97